

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 730 272 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
31.03.1999 Bulletin 1999/13

(43) Date of publication A2:  
04.09.1996 Bulletin 1996/36

(21) Application number: 96103001.2

(22) Date of filing: 28.02.1996

(51) Int. Cl.<sup>6</sup>: G11B 20/12, G11B 27/32,  
G11B 27/10, G11B 27/034,  
G11B 19/02, H04N 5/92,  
H04N 5/93, H04N 9/82,  
H04N 5/85, G09B 5/06  
// G11B7/00

(84) Designated Contracting States:  
DE FR GB NL

(30) Priority: 28.02.1995 JP 40454/95

(71) Applicant:  
KABUSHIKI KAISHA TOSHIBA  
Kawasaki-shi (JP)

(72) Inventor:  
Fujita, Kazuya,  
c/o Int. Prop. Div.  
Tokyo 105 (JP)

(74) Representative:  
Henkel, Feller, Hänzeler  
Möhlstrasse 37  
81675 München (DE)

(54) Recording medium, apparatus and method of recording data on the same, and apparatus and method of reproducing data from the recording medium

(57) In an apparatus and method of reproducing a data unit consisting of a stream of packs of main picture data, a data unit consisting of a stream of packs of audio data, and a data unit consisting of a stream of packs of sub-picture data, which recorded on an optical disk (10) and which are reproducible in the same time slot, reproduction data of the data unit including the sub-picture data is reproduced by a sub-picture decoder section (62) after reproduction data of the data

unit including the audio data and reproduction data of the data unit including the video data are simultaneously reproduced by a video decoder section (58) and an audio decoder section (60), and after the reproduction data of the data unit including the sub-picture, the reproduction data of the data unit including the audio data and the reproduction data of the data unit including the video data are simultaneously reproduced again.

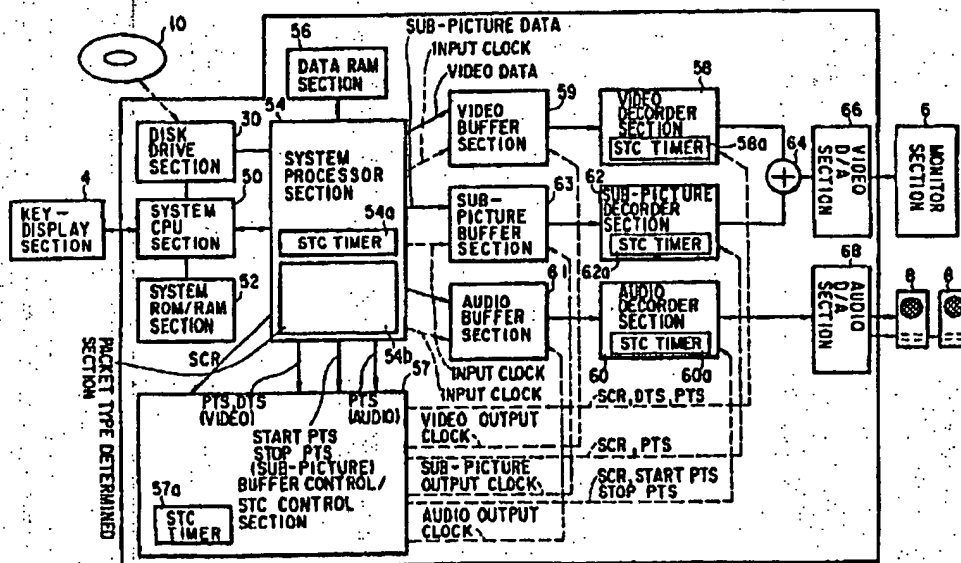


FIG. 1

EP 0 730 272 A3

European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number

EP 96 10 3001

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.C16)
A	EP 0 521 487 A (SONY CORP) 7 January 1993  * the whole document *	1,2,7, 12,13, 18,19, 24,25, 30,31, 36,38, 43,45, 50,52, 57,59, 64,65, 70,71,76	G11B20/12 G11B27/32 G11B27/10 G11B27/034 G11B19/02 H04N5/92 H04N5/93 H04N9/82 H04N5/85 G09B5/06 //G11B7/00
A	PRESTON J.M.: "Compact Disc-Interactive : A Designer's Overview" 1991, KLUWER, NL, DEVENTER XP002091856  * page 61 - page 108 *	1,2,7, 12,13, 18,19, 24,25, 30,31, 36,38, 43,45, 50,52, 57,59, 64,65, 70,71,76	TECHNICAL FIELDS SEARCHED (Int.C16)  G11B H04N G06F G09B A63F
A	WO 94 10664 A (KIM YOUNG SUN ;KIM YOUNG MIN (KR)) 11 May 1994  * the whole document *	1,3,5,7, 13,19, 25,31, 38,45, 52,59, 65,71,78	
-/--			
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>1 February 1999</b>	Examiner <b>Daalmans, F</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 96 10 3001

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 308 (P-1555), 11 June 1993 & JP 05 027730 A (MITSUBISHI ELECTRIC CORP), 5 February 1993  * abstract * * &JP 05 027730 A: figures 1-6 *	1,3,5,7, 13,19, 25,31, 37,38, 44,45, 51,52, 58,59, 65,71, 77,78,84	
A	WO 93 03453 A (BRODERBUND SOFTWARE INC) 18 February 1993  * the whole document *	1,3,7, 13,19, 25,31, 38,45, 52,59, 65,71,78	
P,A	EP 0 644 692 A (K.K.TOSHIBA) 22 March 1995  * the whole document *	1,2,7, 12,13, 18,19, 24,25, 30,31, 36,38, 43,45, 50,52, 57,59, 64,65, 70,71,76	
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>1 February 1999</b>	Examiner <b>Daalmans, F</b>
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

**EP 96 10 3001**

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

**01-02-1999**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0521487 A	07-01-1993	JP 5012804 A	22-01-1993
		JP 5012831 A	22-01-1993
		DE 69222235 D	23-10-1997
		DE 69222235 T	15-01-1998
		US 5715224 A	03-02-1998
WO 9410664 A	11-05-1994	AU 5377494 A	24-05-1994
		CN 1086339 A	04-05-1994
		KR 9612402 B	20-09-1996
WO 9303453 A	18-02-1993	AU 2419092 A	02-03-1993
		EP 0576628 A	05-01-1994
EP 0644692 A	22-03-1995	JP 7087443 A	31-03-1995
		JP 7130102 A	19-05-1995
		DE 69408237 D	05-03-1998
		DE 69408237 T	27-08-1998
		DE 69414275 D	03-12-1998
		EP 0790739 A	20-08-1997
		EP 0790743 A	20-08-1997
		US 5715356 A	03-02-1998